

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Examiner : Jeffery Swearingen
Docket No. : 101610.55984US
Title : Distributed, Fault-Tolerant Message Store

REPLY BRIEF

Mail Stop Appeal Brief- Patents

Commissioner for Patents
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Sir:

In response to the Examiner's Answer dated April 17, 2009, Appellants respectfully submit that the Patent Office has still failed to provide sufficient reasoning to support the anticipation rejection of claims 1-36 in view of Boyle.

Appellants' Appeal Brief addressed the interpretation of Boyle provided in the final Office Action. The Examiner's Answer appears to provide a different interpretation of Boyle that when applied to Appellants' claims is not supported by the express or inherent disclosure of Boyle. Additionally, the Patent Office continues to inconsistently interpret Boyle to reject the independent and dependent claims. In order to appreciate this erroneous interpretation, Appellants will first present a summary of Boyle, an identification of the elements of Boyle asserted as corresponding to Appellants' claim elements and a discussion of why the asserted correspondence is unsupported by Boyle.

I. The Disclosure of Boyle

Boyle is directed to a technique for pushing and pulling data using wideband and narrowband networks. Specifically, referring now to Fig. 4 of Boyle (reproduced below), mobile devices can subscribe to content updates with

link server device 114.¹ When link server device 114 obtains updated content from web server 202, link server device 114 sends a notification to the mobile devices that subscribe to the updated content using short message service center (SMSC) 204.² The notification includes the subscriber ID and one or more URLs with updated content.³ In response to the notification message, a mobile device 106 can obtain the updated content by establishing a connection over a wideband network via interworking function (IWF) 206.⁴

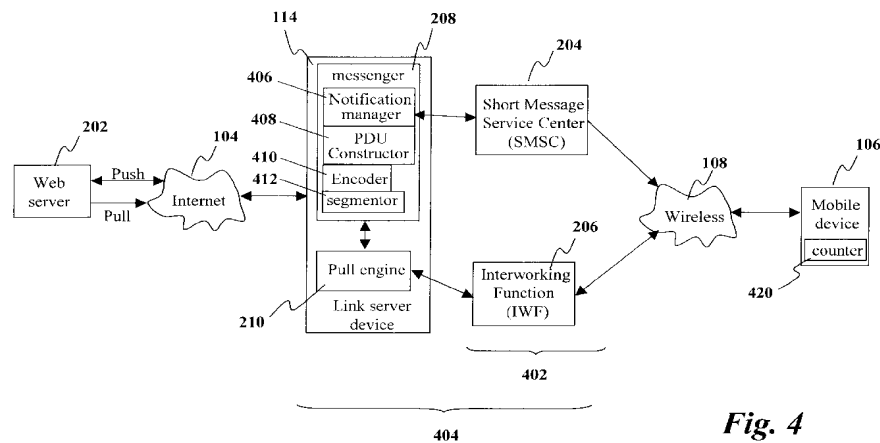


Fig. 4

In order to track whether a mobile device has received the notification, link server device 114 stores the notifications in a queue and assigns a sequence number to the notifications and when a confirmation is received link server device 114 either stamps a confirmation on the notification or removes the notification from the queue list.⁵ If mobile device 106 has unconfirmed

¹ Column 5, lines 24-28.

² Column 5, lines 31-35.

³ Column 10, lines 40-42.

⁴ Column 7, lines 48-51.

⁵ Column 11, lines 28-50.

notifications when the device requests content, link server device 114 can deliver the notification over the wideband channel via IWF 206.⁶

II. The Correspondence of Elements of Boyle to Appellants' Claim Elements Provided by the Patent Office

The Examiner's Answer provides the following correspondence between the elements of Appellants' claims and the elements of Boyle:

| Appellants' Claim Elements | Elements of Boyle |
|----------------------------|---|
| Destination Node | Mobile Device 106 ⁷ |
| Message | Updated Content Notification ⁸ |
| Addressing Function | Mobile Device 106 ⁹ |

III. The Express or Inherent Disclosure of Boyle Does Not Support the Patent Office's Application of Boyle to Appellants' Claims 1 and 14

Substituting the elements of Boyle identified in the Examiner's Answer into Appellants' claim 1 would read as follows:

1. A method of managing a network, comprising:
calculating a plurality of **mobile devices** based on a subscriber identifier and a plurality of **mobile devices**, each **mobile device** corresponding to a topology of the network at a particular moment in time;
querying the calculated plurality of **mobile devices** for **an updated content notification message**.

⁶ Column 14, lines 45-49.

⁷ See, for example, Examiner's Answer at page 10, paragraph 2. b.

⁸ See, for example, Examiner's Answer at page 10, paragraph 2. a.

⁹ See, for example, Examiner's Answer at page 11, paragraph 2. c., stating "the addressing function is the particular mobile device which is to receive the update."

First, Boyle does not disclose that a plurality of mobile devices is calculated based on a subscriber identifier and a plurality of mobile devices.

Second, Boyle does not disclose that each mobile device corresponds to a topology of the network. The Examiner's Answer reasons that it is proper to interpret the mobile device as the addressing function because the mobile device may not be powered on at a particular time. Although the mobile device may be part of the topology of the network, the mobile device does not correspond to the topology of the network.

Third, link server 114 sends the update content notification message to mobile device 106, and accordingly link server 114 does not query mobile device 106 for the updated content notification message. The Examiner's Answer also appears to provide a different interpretation of the claimed "message" by interpreting the claimed querying as related to a "confirmation of delivery notification".¹⁰ Boyle, however, merely discloses that the updated content delivery notification message is delivered from link server device 114 to mobile device 106 via an SMSC 204. As will be recognized by those skilled in the art, short message service (SMS) message delivery involves an SMSC delivering an SMS message and the recipient automatically sending a confirmation receipt. Thus, in Boyle there is no need to query for the confirmation receipt as the confirmation receipt is automatically sent by the mobile device.

¹⁰ Examiner's Answer at page 10, paragraph 1.

Independent claim 14 recites similar elements to those discussed above, and is not anticipated by Boyle for similar reasons.

Because the Patent Office's interpretation of Boyle is not supported by the express or inherent disclosure of Boyle, the anticipation rejection of claims 1 and 14 is improper and should be withdrawn.

IV. The Patent Office Continues to Inconsistently Interpret Elements of Boyle to Reject Appellants' Dependent Claims 4, 5, 10-13, 15, 16, 18-20, 24, 25 and 30-33

A. The Rejection of Claims 4, 5, 15, 16, 24 and 25

Appellants' claim 4 is reproduced below with the elements of Boyle identified in the Examiner's Answer substituted into the claim¹¹:

4. A method of managing a network, comprising:

calculating a plurality of **mobile devices** based on a subscriber identifier and a plurality of **mobile devices**, each **mobile device** corresponding to a topology of the network at a particular moment in time;

querying the calculated plurality of **mobile devices** for **an updated content notification message**;

receiving a message retrieval request at an initial retrieval node of the network, the message retrieval request including the subscriber identifier;

receiving the **updated content notification message** from one of the calculated **mobile devices**; and

¹¹ Because claim 4 depends from claims 1-3 and necessarily incorporates all of the elements of these claims, claim 4 is presented in independent form for ease of understanding.

forwarding the **updated content notification message** toward an originator of the message retrieval request, wherein the originator of the message retrieval request is a wireless handset, the message being at least one of a short messaging service message and a mail digest.

Boyle discloses that link server device 114 sends the updated content notification message to mobile device 106, and not that link server 114 receives the message from the mobile device 106. Accordingly, Boyle does not expressly or inherently disclose receiving the **updated content notification message** from one of the calculated **mobile devices**.

Moreover, to reject independent claim 1 the Patent Office asserts that mobile device 106 corresponds to the claimed destination node, but the Patent Office has not identified any element of Boyle that corresponds to the claimed “wireless handset”. Because mobile device 106 is the only element of Boyle that could possibly be interpreted as the claimed “wireless handset”, the Patent Office cannot properly interpret mobile device 106 as disclosing both the claimed destination node and the wireless handset. As such, the Patent Office has failed to provide any reasoning to support the rejection of claim 4. Claim 5 similarly depends from claims 1-3 and recites a “wireless handset”. Accordingly, the rejection of this claim is improper for similar reasons to that discussed with respect to claim 4. Dependent claims 15, 16, 24 and 25 recite similar elements to those discussed above with regard to claims 4 and 5, and are not anticipated by Boyle for similar reasons.

B. The Rejection of Claims 10, 18 and 30

Claim 10 depends from claim 1 and further recites “expiring one or more of the plurality of addressing functions based on a message validity period.”¹² Again, the Patent Office relies upon the mobile device 106 of Boyle as corresponding to the claimed “addressing functions”. The Examiner’s Answer relies upon Boyle’s disclosure in column 16, lines 11-13 of a timeout to prevent the message system from perpetually trying to send a fragment of the updated content notification message. It appears that this timeout merely prevents the system from retransmitting a fragment of the updated content notification message using SMSC 204. However, as discussed above, Boyle also allows for delivery of updated content notification messages when mobile device 106 actually requests content. Thus, there is no expiration of the mobile device 106 when it cannot deliver a fragment of the updated content message via SMSC 204 because the message will then be delivered using IWF 206.

Dependent claims 18 and 30 recite similar elements to those discussed above with regard to claim 10, and these claims are not anticipated by Boyle for similar reasons.

¹² Claims 18 and 30 recite similar elements and are patentably distinguishable for similar reasons.

C. The Rejection of Claims 11, 19 and 31

Claim 11 depends from claim 1 and further recites “expiring one or more of the plurality of addressing functions for an expired destination node based on a local expiration signal from the expired destination node.”^{13,14} Again, the Patent Office is interpreting mobile device 106 as corresponding to the claimed “destination node”. Boyle, however, does not expressly or inherently disclose a local expiration signal from mobile device 106. Instead, the timeout disclosed by Boyle occurs when a fragment of the updated content notification message is not successfully delivered to mobile device 106. In this case, mobile device 106 would not provide an expiration signal, but instead the timeout would be based on an internal timer within SMSC 204.

Additionally, using the correspondence between Appellants’ claim elements and the elements of Boyle provided in the Examiner’s Answer, claim 11 would read as follows:

expiring one or more of the plurality of **mobile devices 106** for an expired **mobile device 106** based on a local expiration signal from the expired **mobile device 106**.

Thus, when the Patent Office’s interpretation of the elements of Boyle is applied to Appellants’ claim 11, the claim would require expiring one of the mobile devices for an expired mobile device, which is nonsensical.

¹³ Emphasis added.

¹⁴ Claims 19 and 31 recite similar elements and are patentably distinguishable for similar reasons.

Dependent claims 19 and 31 recite similar elements to those discussed above with regard to claim 11, and these claims are not anticipated by Boyle for similar reasons.

D. The Rejection of Claims 12, 20 and 32

Claim 12 depends from claim 1.¹⁵ Using the correspondence between Appellants' claim elements and the elements of Boyle provided in the Examiner's Answer, claim 12 would read as follows:

applying a time stamp to each of the plurality of **mobile devices**; and
delivering each of the plurality of **mobile devices** to the plurality of **mobile devices** before activation.

First, Boyle does not disclose that a time stamp is applied to the mobile devices. The Examiner's Answer relies upon the sequence number applied to content update notification messages by link server device 114. These sequence numbers are applied to the messages and not to the mobile devices.

Furthermore, the interpretation of Boyle provided by the Examiner's Answer renders the claimed "delivering" nonsensical because it would require Boyle to disclose delivering each of the plurality of **mobile devices** to the plurality of **mobile devices**, which Boyle clearly does not.

¹⁵ Claims 20 and 32 recite similar elements and are patentably distinguishable for similar reasons.

Dependent claims 20 and 32 recite similar elements to those discussed above with regard to claim 12, and these claims are not anticipated by Boyle for similar reasons.

E. The Rejection of Claims 13 and 33

Claim 13 depends from claim 1 and further recites that “the addressing functions are hash functions.”¹⁶ Based on the correspondence between Appellants’ claim elements and the elements of Boyle provided in the Examiner’s Answer claim 13 would read as “**the mobile devices** are hash functions”. Clearly Boyle does not disclose that the mobile devices are hash functions.

The reasoning to support the rejection of claim 13 in the Examiner’s Answer asserts that Boyle’s disclosure in column 16, lines 58-61 of encrypting messages exchanged between link server 114 and mobile device 106 anticipates the claimed hash function. This is inconsistent with the reasoning used to reject claim 1 where the claimed “addressing functions” are asserted to correspond to Boyle’s mobile device 106.

Furthermore, if the interpretation of the claimed “addressing functions” to reject claim 13 were applied to Appellants’ claim 1, then at least one of the encrypted messages exchanged between link server device 114 and mobile device 106 would have to correspond “to a topology of the network at a particular moment in time.” Boyle, however, is completely silent with respect to a message

¹⁶ Claim 33 recites similar elements and is patentably distinguishable for similar reasons.

corresponding to a network topology. Thus, under this new interpretation of the claimed “addressing functions” introduced to reject claim 13 Boyle would not anticipate claim 1.

Dependent claim 33 recites similar elements to those discussed above with regard to claim 13, and this claim is not anticipated by Boyle for similar reasons.

V. The Express or Inherent Disclosure of Boyle Does Not Support the Patent Office’s Application of Boyle to Appellants’ Claims 34

To reject Appellants’ claim 34 the Examiner’s Answer provides the following correspondence between the elements of Appellants’ claims and the elements of Boyle:

| Appellants’ Claim Elements | Elements of Boyle ¹⁷ |
|----------------------------|---------------------------------|
| First Node | Link Server 114 |
| Second Node | A first Mobile Device 106 |
| Third Node | A third Mobile Device 106 |

Substituting the elements of Boyle identified in the Examiner’s Answer into Appellants’ claim 34 would read as follows:

34. A method of managing a network, comprising:
receiving, by **link server 114** that stores messages, a message retrieval request;
calculating, by **link server 114** using a subscriber identifier and a first addressing function, a **first mobile device 106** that stores messages;

¹⁷ Examiner’s Answer at page 12, paragraph 4.

calculating, by **link server 114** using the subscriber identifier and a second addressing function, a **second mobile device 106** that stores messages; and

forwarding, by **link server 114**, the message retrieval request to the **first and second mobile devices 106**.

Boyle, however, at best discloses that link server 114 sends content notification messages and content to mobile devices 106. Boyle does not disclose that message retrieval requests are sent to mobile devices 106.

Additionally, if the correspondence between the claimed “addressing function” and mobile device 106 provided by in the Examiner’s Answer were applied to claim 34 then the claim would recite that the link server uses the first mobile device 106 to calculate a first mobile device that stores messages and a second mobile device 106 to calculate second mobile device that stores messages. There is no disclosure in Boyle that mobile devices 106 are used to calculate mobile devices, and accordingly this interpretation would not establish anticipation of claim 34.

Furthermore, if the interpretation of the claimed “addressing functions” used to support the rejection of claim 13 were applied to Appellants’ claim 34, then the claim would involve using the subscriber identifier and one of the messages to calculate a mobile device. Boyle, however, contains no such disclosure.

VI. Conclusion

As set forth above, when the elements of Boyle alleged to correspond to elements of Appellants' claims are actually substituted into the claims Boyle does not disclose or suggest that these elements function as required by the claim, and in some cases results in a nonsensical arrangement of claim elements. Furthermore, the Patent Office has taken inconsistent interpretations of Boyle to reject independent and dependent claims. Thus, the anticipation rejection is improper and should be reversed.

In conclusion, Appellants submit that claims 1-36 are patentable over the prior art of record for the reasons stated in their Appeal Brief.

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, to Deposit Account no. 05-1323, Docket No.: 101610.55984US

Respectfully submitted,

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